MAY 2018

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF A PROPOSED SOLAR CENTER IN WATERFORD, CONNECTICUT

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ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center in Waterford, Connecticut. BL Companies requested that Heritage Consultants, LLC complete the Phase IA cultural resources assessment survey as part of the planning process for a proposed solar center that will be located on approximately 112.5 acres of land situated to the east of Oil Mill Road in Waterford, Connecticut. The proposed project will include the clearing of the parcel along with the installation of rows of solar arrays across the limit of work. There will also be access roads that extend around and through the solar arrays; the roads eventually converge and lead to Parkway North, which is at the southern end of the project parcel. In addition, project plans call for the installation of four storm water management areas. This Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the study area; 3) a review of readily available historic maps and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the study area in order to determine its archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

The combined review of historic maps, aerial images, land deeds, and pedestrian survey indicates that 87.6 acres of the study area possess a no/low archaeological sensitivity. These areas are characterized by the presence of major disturbances, wetlands, streams, rock outcroppings, and/or steep slopes. They are found throughout the central, southwestern and southeastern portions of the study area. In contrast, approximately 24.9 acres has been classified as moderate/high sensitivity areas for producing archaeological deposits. Although the forest has been removed from these areas, the stumps have not been pulled, leaving the depositional integrity relatively undisturbed. Three moderate/high sensitivity areas possess relatively low slopes, well drained soils, and are positioned closer to Oil Mill and Stony Brook than the rest of the study area; they are situated in the northernmost and northeastern portions of the study area. Since the above-referenced no/low sensitivity areas contain slopes, wet areas, rock outcroppings, and/or obvious signs of major disturbance, no archaeological deposits are expected in these areas; thus, no additional examination of them is recommended prior to construction of the proposed solar center. In addition, while it is known that the moderate/high sensitivity areas have undergone some level of previous disturbance by the recent timbering, it is possible that undisturbed subsoil may remain in these areas and may contain intact archaeological deposits. Thus, it is recommended that Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas that will be impacted by construction be conducted.

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center in Waterford, Connecticut (Figure 1). BL Companies requested that Heritage Consultants, LLC (Heritage) complete the Phase IA cultural resources assessment survey as part of the planning process for a proposed solar center that will be located on approximately 112.5 acres of land and is referred to hereafter as the study area. The study area is situated to the east of Oil Mill Road in Waterford, Connecticut. The project parcel is bordered to the west by residential areas along Oil Mill Road, to the north and east by forested areas, and to the south by Parkway North, a service road that runs parallel to Interstate 95. Heritage completed this investigation on behalf of BL Companies in April of 2018. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut Historic Commission, State Historic Preservation Office.

Project Description and Methods Overview

The proposed project will include the clearing of the parcel along with the installation of rows of solar arrays across the limit of work. There will also be access roads that extend around and through the solar arrays; the roads eventually converge and lead to Parkway North, which is at the southern end of the project parcel. In addition, project plans call for the installation of four storm water management areas (Figure 2). This Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the study area; 3) a review of readily available historic maps and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the study area in order to determine its archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Project Results and Management Recommendations Overview

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disturbance by the recent timbering, it is possible that undisturbed subsoil may remain in these areas and may contain intact archaeological deposits. Thus, it is recommended that Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas that will be impacted by construction be conducted. Finally, it is recommended that any proposed Scope of Work associated with Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas referenced above be discussed with the Connecticut State Historic Preservation Office prior to implementation.

Project Personnel

Key personnel for this project included Mr. David R. George, M.A., R.P.A, who served as Project Manager for this effort; he was assisted by Mr. Stephen Anderson, B.A., and Mr. Tony Medina, B.A., who helped him complete the fieldwork portion of the project. Mr. William Keegan, B.A., provided support services for the project, while Ms. Hannah Lents, M.A., GIS completed all project-related geographical information systems tasks. Finally, Mrs. Kristen Keegan completed this historic background research for the project and contributed to the final report.

Organization of the Report

The natural setting of the region encompassing the study area is presented in Chapter II; it includes a brief overview of the geology, hydrology, and soils, of the project region. The prehistory of the project region is outlined briefly in Chapter III. The history of the region encompassing the project region and study area is chronicled in Chapter IV, while a discussion of previous archaeological investigations in the vicinity of the study area is presented in Chapter V. The methods used to complete this investigation are discussed in Chapter VI. Finally, the results of this investigation and management recommendations for the study area and the identified cultural resources are presented in Chapter VII.

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the study area in Waterford, Connecticut. Previous archaeological research has documented that a few specific environmental factors can be associated with both prehistoric and historic period site selection. These include general ecological conditions, as well as types of fresh water sources and soils present. The remainder of this section provides a brief overview of the ecology, hydrological resources, and soils present within the study area and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has very different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> "an area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota."

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: Southeast Hills ecoregion. A brief summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the study area.

Southeast Hills Ecoregion

The Southeast Hills ecoregion, which consists of "coastal uplands, lying within 25 miles of Long Island Sound, characterized by low, rolling to locally rugged hills of moderate elevation, broad areas of upland, and local areas of steep and rugged topography" (Dowhan and Craig 1976). Elevations in the Southeast Hills ecoregion generally range from 75.7 to 227.2 m (250 to 750 ft) above sea level (Dowhan and Craig 1976). The bedrock of the region is composed of schists, and gneisses deposited during the Paleozoic. Soils in the region have developed on top of glacial till in upland locales, and on top of stratified deposits of sand, gravel, and silt in the local valleys and upland areas (Dowhan and Craig 1976).

Hydrology in the Vicinity of the Study Area

The proposed study area is situated within proximity to several sources of freshwater, including Oil Mill Brook, Willys Meadows Brook, Stony Brook, Latimer Brook, Banning Cove, and the Niantic River, as well as other unnamed streams, ponds and wetland areas. These brooks and rivers may have served as resource extraction areas for Native American and historic populations. This is especially true for the Oil Mill Brook, along which many archaeological sites have already been identified. The Niantic River also

has numerous documented archaeological sites along its banks in this region. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

Soils Comprising the Study Area

Soil formation is the direct result of the interaction of a number of variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to a number of diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present in within the current study area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the study area is presented below. The study area is characterized by the presence of four major soil types. The most ubiquitous soil types found within the region and which cover the majority of the study area include Canton and Charlton, Charlton-Chatfield, Hollis-Chatfield, and Paxton and Montauk soils. Cheshire and Wethersfield soil types are well correlated with both historic and prehistoric archaeological site locations. Descriptive profiles for each, which were accessed via the National Resources Conservation Service, are presented below.

Canton and Charlton Soils:

Canton and Charlton soils consist of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical soil profile is as follows: **Oe** -- 0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material; **A** -- 4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1** -- 10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2** -- 18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3** -- 48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C** -- 69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

Charlton-Chatfield Soils:

Charlton-Chatfield series consists of well drained soils formed in loamy melt-out till. They are moderately deep to bedrock. They are nearly level to very steep soils on bedrock-controlled hills and ridges. Slope ranges from 0 to 70 percent. A typical soil profile is as follows: **Oi** -- 0 to 3 cm, slightly decomposed leaf, needle, and twig litter; **A** -- 3 to 5 cm, very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1), dry; weak fine subangular blocky structure; friable; many fine and medium roots throughout; 5 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt smooth boundary; **Bw1**-- 5 to 33 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable; common fine roots throughout and common medium roots throughout; 15 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt wavy boundary; **Bw2** -- 33 to 76 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 20 percent mixed rock fragments; very strongly acid, pH 4.5; abrupt irregular boundary; and **2R** -- 76 cm; fractured lightly-weathered schist bedrock.

Hollis-Chatfield Soils:

The Hollis series consists of well drained and somewhat excessively drained soils formed in a thin mantle of till. They are shallow to bedrock. They are nearly level to very steep upland soils on bedrock-controlled hills and ridges. Slope ranges from 0 through 60 percent. A typical soil profile is as follows: **Oi** -- 0 to 3 cm; slightly decomposed plant material; **Oa** -- 3 to 5 cm; black (10YR 2/1) highly decomposed plant material; moderate fine granular structure; very friable; many fine and very fine roots; abrupt smooth boundary; **A** -- 5 to 18 cm; very dark grayish brown (10YR 3/2) gravelly fine sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; common fine, very fine, medium, and coarse roots; 10 percent gravel, 5 percent channers; very strongly acid; clear smooth boundary; **Bw1** -- 18 to 25 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; moderate medium subangular blocky structure; friable; few very fine and fine roots, common medium roots; 10 percent gravel, 10 percent channers; strongly acid; clear wavy boundary; **Bw2** -- 25 to 41 cm; yellowish brown (10YR 5/6) gravelly fine sandy loam; moderate medium and coarse subangular blocky structure; friable; few fine and very fine roots, common medium roots; 10 percent gravel, 5 percent channers; strongly acid; abrupt smooth boundary; and **2R** -- 41 cm; schist bedrock.

Paxton and Montauk Soils:

The Paxton series consists of well drained loamy soils formed in lodgment till. The soils are very deep to bedrock and moderately deep to a densic contact. They are nearly level to steep soils on hills, drumlins, till plains, and ground moraines. Slope ranges from 0 to 45 percent. A typical soil profile is as follows: **Ap** -- 0 to 20 cm; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary; **Bw1** -- 20 to 38 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent gravel; few earthworm casts; strongly acid; gradual wavy boundary; **Bw2** -- 38 to 66 cm; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; and **Cd** -- 66 to 165 cm; olive (5Y 5/3) gravelly fine sandy loam; medium plate-like divisions; massive; very firm, brittle; 25 percent gravel; many dark coatings on plates; strongly acid.

Summary

The natural setting associated with the proposed study area is common throughout the Southeast Hills ecoregion. Streams and rivers of this area empty either into the Niantic River or the Long Island Sound and the landscape in general is dominated by well drained, sandy to loamy soil types. In addition, low slopes dominate the region. The project region was well suited to Native American occupation throughout the prehistoric era. As a result, archaeological sites have been documented in the larger project region, and additional prehistoric cultural deposits may be expected within the study area where there has not been previous disturbance. This area was also used extensively throughout the historic era, as evidenced by the numerous historic era archaeological sites located along Oil Mill Brook, and archaeological sites dating from the last 350 years or so may also be expected near this property.

CHAPTER III
PREHISTORIC SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the state of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were located in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by prehistoric Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the prehistoric era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the study area.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals.

While there have been numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is located in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The only other Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) hypothesized that the Hidden Creek Site represented a short-term occupation, and that stone tool reduction and rejuvenation areas were present.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high quality raw materials from which to fashion stone tools.

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archaeologists recently have recognized a final "transitional" Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified recognized on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, finds of these projectile points have rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, an area represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is located in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740$\pm$280 and 7,015$\pm$160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates

were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

The Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archaeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the

Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by the use Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic that interior cord marked, grit tempered, thick walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern still was diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and it has thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper.

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of White-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including

chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types indicative of the Middle Woodland Period includes Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For the majority of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed study area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
HISTORIC OVERVIEW

Introduction
The study area is located to the north of the intersection of Oil Mill Road and Waterford Parkway North in the Town of Waterford, which separated from the City of New London in 1801. The area, near Waterford's western border with East Lyme and to the north of Interstate-95, is in one of the relatively less-developed parts of the town. As of recently, it was covered in secondary forest and was unused. The remainder of this chapter provides on overview history of the Town of Waterford, as well as some historic specifics about the study area.

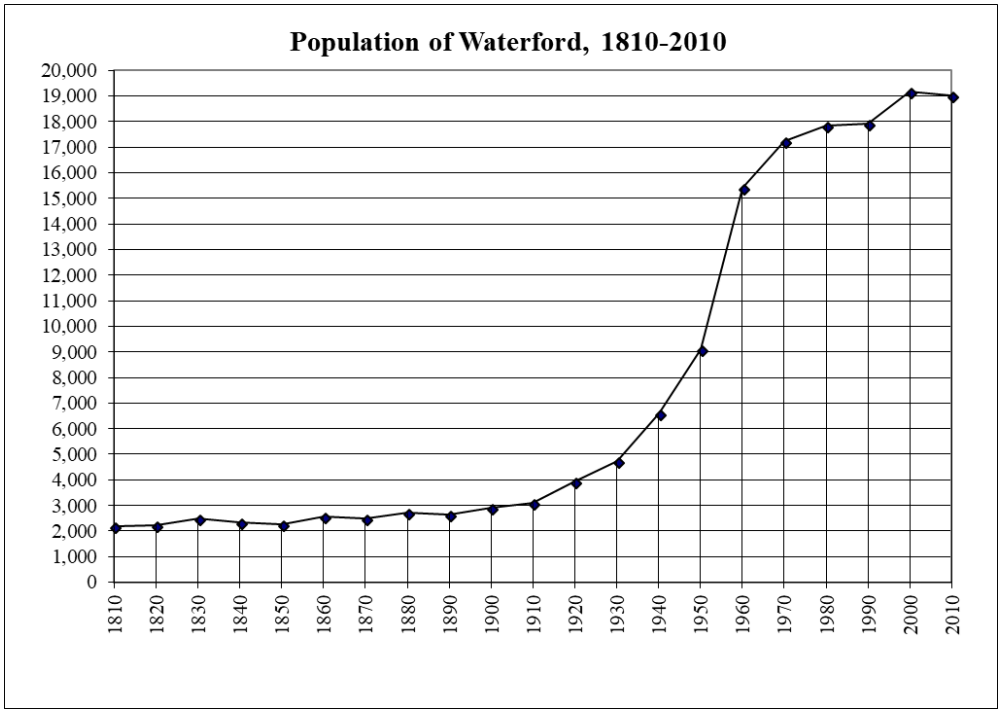
Native American History
The future town of Waterford was part of the large territory conquered from the Pequot Indians by the English colonies and their Native allies during the war of 1636-1637. Prior to that time, various parts of the coastline and interior would have been used by Native Americans for fishing, hunting, and agriculture (De Forest 1852). New London, from which Waterford later separated, fell to the Connecticut government when the spoils of the war were divided, and in 1641 the General Court ordered it surveyed; distribution of the land and its colonization began thereafter (Crofut 1937). Because the policy of the colonists was to prevent the Pequots from gathering again in their former territory, the Native American history of New London effectively ended with the war. Two groups of Pequots nevertheless did reconstitute themselves later on, and in the late twentieth century became the owners of casino and related enterprises on their reservations in the nearby towns of Montville and Ledyard. There is, however, no direct evidence of Native American activity in or near the study area.

Seventeenth and Eighteenth Centuries
New London was founded in 1648, and the first settlement in what would become Waterford was probably made in the 1660s, on the shore near the southeastern corner of the present town (Crofut 1937). The project area is located in the northwestern part of Waterford, near the head of the Niantic River and the historic bridge and village there. Unusually, Waterford does not appear to have had a Congregational church society separate from New London's. Instead, a Baptist congregation was formed in the 1670s, and by the 1830s there were three Baptist churches in the town (Barber 1837). The city of New London was incorporated in 1784, and Waterford's creation as a new town may have reflected the divergence of interests between the city and country populations. Although New London was much involved in wars, from the Pequot War to the Revolutionary War to the War of 1812, most of this activity took place on the east side of the town, where the city and the harbor on the Thames River were located (Crofut 1937). New London (then including Waterford) was the terminus of the Mohegan Road, laid out through the Indian tribe's lands in 1670. Also in the seventeenth century, the Boston Post Road was established, and passed across the head of the Niantic River. In the 1790s, when the state began its efforts to improve transportation routes, the Mohegan Road was made a toll road (Wood 1919).

Nineteenth and Twentieth Centuries
As has been noted, the town of Waterford separated in 1801 from New London. In 1800, the General Assembly incorporated the Hartford and New London Turnpike Company, which built a road diagonally from Waterford's northwestern corner to the city of New London. In 1807, the New London and Lyme Turnpike was incorporated to improve the section of the Old Post Road between those two places, with subsequent improvements to bridges along the routes. This turnpike, located a short distance to the south of the project area, remained in business for some time (Wood 1919). In 1850, a railroad link between New

Haven and New London was opened, crossing the Niantic River at its mouth, and by 1858 the "Shore Line" railroad, still partly in operation under a different name, finished a direct rail route between New York and Boston (Turner and Jacobus 1989). The place-names Oil Mill Brook and Oil Mill Road refer to the nearby presence, as shown in an 1813 map of the state, of water-powered mills for the preparation of oils from different types of seeds (Warren and Gillett 1813). The 1854 map of the county still shows an oil mill located southwest of the project area (Figure 3).

The rural nature of nineteenth-century Waterford is illustrated by its population figures; between 1810 (its first census year as an independent town) and 1910, its population slowly rose from just over 2,000 to just over 3,000. After that year, the population began to rise substantially: to just under 4,000 in 1920, to 9,100 in 1950, to nearly 18,000 in 1990 (see the population chart below). These changes are consistent with development trends in the state. During the late nineteenth and early twentieth centuries, the rise of leisure activities led to the development of seaside resorts – hotels, boarding houses, and cottage developments, together with a related rise in the number of year-round residents in shoreline towns. At the same time, declines in fish populations reduced the shoreline's fishing industry, and when faced with competition from western grain and cattle production, regional farmers turned to dairying, fruits, and vegetables or went out of business. As the twentieth century progressed, the trend toward suburban living brought many more permanent residents to Waterford, further boosting the population (Herzan 1997). This is not to say that Waterford had no industrial activity; in 1932, for example, it still had quarrying and "monument work," paper manufacturing, a woolen mill, and bleaching and dyeing, as well as agriculture (Connecticut 1932). The difference is that these businesses were not in urban areas. Waterford remains a town with considerable development near the shore and New London, but still with large areas of undeveloped land in the interior, even near the major transportation routes. Despite the powerful need for an improved traffic route along the shore, plans for I-95 were not finalized until 1954, and it did not open until 1958, incorporating a number of earlier improvements to Route 1 (Oglesby 2007). The project area itself does not appear to have been used for any purposes other than agricultural, based on the documentary evidence, as is seen below.



History of the Study Area

Between about 1806 and 1814, William Moore of Waterford, fourth of that name, assembled a farm containing approximately 287 acres via at least four purchases. In 1826, having moved to New York City, he sold it to Guy Turner and Isaac Turner for $3,500; it was subject to mortgages to Asa Spalding, [illegible] Burback, and Jacob B. Gurthy (Waterford Land Records, Vol. 5, Pg. 70=74[1]). Based on the detailed metes and bounds descriptions, shown in Figure 4, the abutting property owners and landmarks were:

N Bears garden, a brook, Lemuel Caulkins, and James Moore's "Small Gains" property;
E Black Snake Ledge, James Moore, William Gorton, and others;
S William Gorton, and the north side of the old New London Road; and
W the road from Cavarlys Mill toward Walter Chappills, Lodowick Beebe, and Bears garden.

As far as can be determined, "Bears garden" refers to a garden owned by someone named Bears; in succeeding deeds, its ownership changed but the garden designation remained for some time. It appears from the land records that William Moore IV assembled this large piece of land in several purchases; although it is possible that he also inherited some of it, the probate records have not been examined. At present, four purchases that are believed to incorporate all or most of the 287-acre farm are as follows:

First, an 1806 purchase from Joseph Smith of 121.5 acres of land with a grist mill and other buildings on it. Based on its description, this parcel extended across the west side of what is now Oil Mill Road and east to Benjamin Gorton's land, and was abutted on the south by a highway (presumably the New London road) (Waterford Land Records, Vol. 3, Pg. 363=333=182). This appears to include the southwestern part of William Moore IV's farm and is the first purchase of his that is in the records.

Second, a parcel containing 6 acres and 14 square rods that Moore purchased in 1809 of William Richards, for the price of $600. This deed, found in Waterford Land Records, Vol. 3, Pg. 211=181=106, described the property with a simple list of abutters:

N said Moore [the grantee], Paul Rogers
E Paul Rogers, Samuel Morgan, Benjamin Gorton
S Benjamin Gorton
W William Moore II

In the next preceding deed, Waterford Land Records, Vol. 2, Pg. 6=3, dated 1809, William Richards bought from Samuel Prentice a half-interest in the same parcel, and described the bounds in more detail:

START at a heap of stones on a ledge [possibly Black Snake Ledge]; thence
Westerly, 47 rods by Benjamin Gorton; thence
Northerly about 176 rods by William Moor; thence
Easterly, 49 rods by Paul Rogers; thence
Southerly by Samuel Morgan; thence
…. 148 rods to START

Comparing this description to that of 1826 suggests it could be a southeastern piece that then (in 1826) abutted south on William Gorton and would be part of the study area. The two half-interests trace back to an 1806 sale by William Stebbens to James Turner and Joel Lummis [or Loomis], when they paid $825 for the

[1] Several of the early volumes of the Waterford land records have been repaginated once or twice, with the result that some pages have as many as three different numbers; these multiple page numbers will be represented with the "=" sign.

61 acres and 14 square rods. That description, found in Waterford Land Records, Vol. 2, Pg. 183=92, provides slightly more detail:

> START at a heap of stones on a ledge [possibly Black Snake Ledge]; thence
> Westerly, 47 rods by Benjamin Gorton to a heap of stones on a small ledge; thence
> N 15° 30' E, 176 rods by William Moors to a heap of stones; thence
> Easterly by said Moor to a large White Oak; thence
> Southeast, 49 rods 15 links by Paul Rogers to a chestnut tree; thence
> Southerly and southwesterly, 148 rods by Paul Rogers, Samuel Morgan and Benjamin Gorton to START

Again, this description does not match the 1826 description very well; but, as will be seen next, the third piece confirms that it was part of the 287-acre farm.

Third, a 100-acre parcel that William Moore IV bought from James Moore in 1813, for $1,500. The deed described it as follows in Waterford Land Records, Vol. 4, Pg. 23:

> START at SW corner by Benjamin Gorton's land; thence
> Easterly, 50 rods by said Gorton to the grantee's land bought of William Richards [that is, the second piece, above]; thence
> Northerly, 200 rods by said grantee's land to William Moore 2nd's "Small Gains";
> Westerly by said Moore's said land, Lemuel Caulkins, and Solomon Dart to the Great Brook; thence
> By said Brook and Bear's Garden to the road; thence
> South by said road, Lemuel Caulkins and Ephelet [sic] Beebe to grantee; thence
> …. By said grantee to START

This description matches the 1826 description very well, with Small Gains, Bear's garden, and others mentioned, and also mentions the second piece, placing both of these pieces with some accuracy in the landscape. Further deed research suggests that James Moore acquired some or all of this property from William Moore II, but the descriptions are inconclusive.

Fourth, a 2.75-acre piece purchased from Eliphalet Beebe in 1814 for $40. The description, as related in Waterford Land Records, Vol. 4, Pg. 44, is as follows:

> START at a heap of stones = NE corner of said Moore's farm purchased of Joseph Smith; thence
> N 63° 30' W, 29 rods 21 links on Moore to a heap of stones; thence
> N 29° E, 18.5 rods by grantor's land to a rock with stones on it; thence
> Easterly as the old fence runs by said Moore to START

The deed is our best evidence that the first parcel, bought from Joseph Smith, is part of this title chain since it refers to Moore's land both north and south of the small parcel, and mentions the 18.5-rod course that is very close to the eastern most course on Lodowick Beebe in the 1826 description.

In addition, it is possible that certain land Moore purchased from Constant Crocker in 1807 is a large, early, and relevant parcel, but as the deed only specifies "all rights in the property of my deceased father Constant Crocker," this has not been confirmed (Waterford Land Records, Vol. 3, Pg. 81=53=41).

As was noted above, the 1826 purchases were Guy Turner of New London and Isaac Turner of Montville. In 1832, a probate file was established regarding the estate of Guy C. Turner, age 3, and Isaac N. Turner,

age 6, sons of Isaac Turner of Montville; their mother Esther was appointed guardian and was given permission to sell 20 acres of land in Montville (New London Probate District, File No. 5402). In 1833, a probate file was established for Guy Turner of Montville, who clearly was an adult. His personal property was valued at over $5,000 and he owned three farms as well as six stores, houses, and lots, located in Waterford, Montville, and New London. The inventory includes the information that the Moore Farm was occupied by W. A. Davis, who owned half the value of the livestock, crops and farm tools on the property – oxen, cows, sheep, swine, fowls, turkeys, ducks, oats, potatoes, and hay, as well as a cart, plow, and a few other things (total value $609.56). The Moore Farm was valued at $4,200, out of a total of over $21,000 in real estate. According the distribution, Elisha Turner, Guy's youngest son, received "one half of the Farm Situate in Waterford called the Moore Farm with one half of the buildings at Two Thousand One Hundred Dollars," plus half of a farm in Montville and a substantial amount of cash. The other half of the Moore Farm went to Mary Louisa Turner, whose relationship to Guy was not specified, but from context she must have been his younger daughter (New London District Probate Records No. 5401). Based on this distribution, Isaac Turner must have transferred his half of this farm to Guy at some point before he died, but that transaction has not been found.

It is not known when Mary Louisa transferred her interest in the farm to Elisha, but in 1843 he sold it, as the sole owner, to William P. Benjamin of New London, for $2,800. The deed referred to it as the "Moore Farm," containing 287 acres, from Elisha Turner for $2,800. This deed provided little description except that the land had come to Elisha Turner and Mary L. Turner from the estate of Guy Turner, deceased (Waterford Land Records, Vol. 8, Pg. 268). Benjamin held it for less than a year before starting to sell it in several pieces. The part that concerns this project was sold in 1844 to John F. Brown of Waterford for $2,500. It contained 152 acres and was located on the road near Samuel Mosier, and abutted

N Samuel Mosier, Comstock Dart, L. Caulkins, and John Keeney;
E John Brown Morgan and William Gorton;
S William Gorton; and
W Ezra M. Keeney, L. Beebe, and others.

The deed also specifically referred to the 1826 purchase by Guy Turner (Waterford Land Records, Vol. 9, Pg. 55). This deed appears to include all of the project area and some additional land was well. Helpfully, Brown mortgaged 100 acres of the property, plus two other 50-acre parcels, to William Gorton the same day, as security for $2,500 in notes to Gorton that Brown had co-signed with Mary L. Benjamin. This mortgage was released, but the description of the abutters was slightly different:

N John Keeney;
E William Gorton and others;
S William Gorton, Ezra M. Keeney; and
W Lodowick Beebe, highway, Comstock, and others.

The deed specifically mentioned Brown's purchase of the land from William F. Benjamin that same day (Waterford Land Records, Vol. 9, Pg. 487).

John F. Brown held most of the land until 1847, when he sold 110 acres of it to Alva A. Brown for $100. The description is a little unclear, but seems to indicate that the abutters listed in Waterford Land Records, Vol. 9, Pg. 132 were:

N Comstock Dart, Samuel Caulkins, John Keeney, and the Hall place;
E (possibly) William Gorton;
S Ezra M. Keeney, Lodowick Beebe, and others; and
W highway (9 rods or 148.5 feet), Benjamin Gorton, and Comstock Dart

Since the property is on the southeast side of the road, this confusion about which side faces north or west is not surprising. Of particular interest to this research is that in 1851, John F. Brown gave a life lease of part of the house he lived in to George and Arilla Fox (husband and wife), which indicates that the land he sold in 1847 – the deed to which mentioned no buildings – in fact did not include a house or other buildings (Waterford Land Records, Vol. 9, Pg. 132). The 1854 map of New London county shows a number of names near the current parcel that are featured in the various land descriptions: C. Mosier, T. P. Caulkins (appearing very close to or in the parcel, but this is probably inaccurate), C. Dart, Mrs. C. Brown. A. A. Brown was shown a good half-mile to the east of the parcel, as was J. F. Brown, W. Gorton was marked next to two houses to the southeast of the parcel, and the town almshouse to the south (Figure 3). In the 1868 town map, familiar names were again shown: J. Beebe, S. Mosier, P. Calkins, and C. Brown; A. Brown, W. Gorton, and the almshouse were still shown well away from the parcel (Figure 5).

It could not be determined when Alva A. Brown acquired more of the land included in the study area, but when he sold a large piece in 1902 to Leroy and Lucy A. Smith of New London, it included 167 acres, but no buildings. Its description started at the northwest corner at Black Snake Ledge, and the line was described in Waterford Land Records, Vol. 25, Pg. 443 as running:

> Westerly on the fence on land of the grantor, George Keeney, and William C. Beebe to the Mosier Garden;
> By the Mosier Garden to the highway;
> Southerly by the highway and Mosier land to William C. Beebe;
> Southerly by William C. Beebe and Waterford Town Farm land to Gorton land;
> Easterly by Gorton to other land of Gorton; and
> Northerly by Gorton and others to the starting point

The Smiths mortgaged it back for $500 in a deed, later released, that referred to the land as a wood lot (Waterford Land Records, Vol. 24, Pg. 302). In 1908, the Smiths (still residents of New London) sold the 167 acres to Clarence P. Dimmock of Waterford, still subject to the mortgage to Brown and also multiple town tax liens, which Dimmock agreed to assume (Waterford Land Records, Vol. 30, Pg. 123).

Dimmock passed away in 1913, leaving two pieces of property to his widow and three daughters. The handwriting on the certificate of devise is poor, but the abutting owners of the second piece, as described in Watertown Land Records, Vol. 32, Pg. 262, were given as:

> N William Beebe, F. Keeney, and the heirs of Alva A. Brown;
> E Henry Gorton;
> S Henry Gorton and Sultz(?); and
> W (blank) Ashcroft, highway, and William Beebe

In 1924 the daughters (all minors, so it was their mother and guardian who executed the deed) sold their interest to James T. Sherlock of East Lyme for $466.66. This deed echoed the description in the 1902 deed to the Smiths, except in the matter of Alva A. Brown being "formerly" an abutter (Waterford Land Records, Vol. 40, Pg. 444). The widow also sold her interest on the same day (Waterford Land Records, Vol. 38, Pg. 630). Sherlock immediately flipped the land to William C. Beebe of Waterford (Waterford Land Records, Vol. 38, Pg. 631). In the same year, Beebe gave a permanent easement for electric pole rights to The Lyme Electric Power Company, allowing for a right of way for 20 feet on either side of the line. The easement included several pieces of land, one of them described in Watertown Land Records, Vol. 40, pg. 485 as abutted:

> N Chipman heirs, and the grantor;

E Henry Gorton, and the Alva M. Brown estate;
S Waterford Town Farm, and Henry Gorton; and
w the grantor, Samuel Mosier, and a highway

Beebe sold the land in 1926 to Elizabeth Crandall Barrett of Washington D.C. Then in 1929, a complex series of transactions occurred, involving several parties, but winding up with George A. Barrett of Washington D.C. selling the land to Harry W. House (Waterford Land Records, Vol. 41, Pg. 300, Vol. 42, Pg. 116, 454, 456, and 487). The 1934 aerial photograph shows only a few buildings near the subject parcel on Oil Mill Road, to the northwest of the parcel and to the west; there were none near the other sides of the parcel. Traces of stone walls are visible through the forest cover near the road, though not further east; overall the parcel was heavily forested. The 1924 power company right-of-way can be seen passing east to west across the southern third of the parcel (Figure 6). At some point after 1926, the property wound up in the hands of Alfred J. Holbrook, a very active land buyer and developer in Waterford. The 1938 probate certificate documenting the transfer of his property to his widow and sole heir, Sarah S. Holbrook, listed well over a dozen parcels, including this one – now described as containing buildings (Waterford Land Records, Vol. 57, Pg. 131). Up to this point, the property had been described as containing 167 acres, when an acreage was mentioned at all. The current parcel is reported by the town's records to contain only 140.8 acres, however. It was a deed in 1944, from the estate of Sarah S. Holbrook to Carl Willis Jr. and Vivian M. Willis, of Stonington, that used the newest description – which is almost identical to the 1902 description except in the matter of "Mosier garden" becoming "Losier garden" (Waterford Land Records, Vol. 70, Pg. 208). Whether the property shrank because of better surveying or because part of it was sold off is, therefore, unclear. As of 1951, the newer utility right-of-way running southwest to northeast and the older one were the only visible features in the parcel's area besides trees (Figure 7). As of 1974, the older utility corridor appeared to be vanishing, while the newer one had been recently cleared and had an access road crossing the northwestern section of the parcel. The rest was still forested (Figure 8).

The Willises owned the property jointly until 1998, after Vivian M. Willis had passed away in 1996, and her interest in it was transferred to the Vivian M. Willis Testamentary Trust. Carl Willis Jr. was initially appointed executor on the estate, but the trustees were two other individuals (Waterford Land Records, Vol. 463, Pg. 307, Vol. 478, Pg. 57). Carl passed away in 2017, leaving a will (Waterford Land Records, Vol. 1526, Pg. 243). Later that year, the testamentary trust passed its interest in the land to its current owners, Rosalie Irene Maguire and Todd Carl Willis (Vol. 1535, Pg. 123). The town's current records about the property indicate that it is vacant. The 2016 aerial photography shows only a faint trace of the old utility corridor, while the 1970s access road to the newer one was a little less faint. The parcel itself was otherwise forested; in fact, aside from corridors around the old roads, most of the area was still undeveloped (Figure 9).

Conclusions

The documentary evidence indicates that it is unlikely that the proposed work in the study area will impact any significant historical resources. Any farming activity on the parcel was most likely restricted to its western end, near the road, and was terminated well before the 1934 aerial photographs were taken. There is no convincing evidence that the project area itself has ever been the location of a house, barn, or other structure. The development of nearby roads and power transmission lines does not appear to have had any direct impact on the majority of the project area.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the study area in Waterford, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the study area are taken into consideration. Specifically, this chapter reviews those archaeological sites, as well as National and State Register of Historic Places properties, situated in the project region. The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage also were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites, National Historic Places Properties and State Register of Historic Places Properties in the Vicinity of the Study Area

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage resulted in the identification of one National Register of Historic Places property and one previously recorded archaeological site located within 1.6 km (1 mi) mile of the study area (Figures 10 and 11). Although none of these resources are located within the study area, their presence in the larger project area indicate the nature of cultural deposits which the project area may contain in undisturbed areas and are described briefly below.

Site 45-25, originally called the Transect 182 Site, was recorded by the Public Archaeology Survey Team, Inc., in July of 1998 (Figure 10). The site was identified during Phase I cultural resources reconnaissance survey of a wooded area in East Lyme, approximately 300 m (1,000 ft) from Gurley Brook ahead of highway construction. The current study area is situated approximately three-quarters of a mile to the east of Site 45-25. Although the site integrity was good, no temporally diagnostic artifacts were recovered, resulting in the date of the occupation remaining unknown. The excavation of eight test pits resulted in the recovery of 47 flakes from stone tool working and five unspecified lithic tools. At this time, Site 45-25 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). The recording archaeologist was unable to define the boundaries of the site or comment upon the research potential of the site, suggesting that additional testing would be necessary.

Site 45-40 was identified during Phase I cultural resources reconnaissance survey and Phase II National Register testing and evaluation of efforts by Archaeological and Historic Services, Inc. in 2002 (Figure 10). The site is located approximately 1.6 km (1.0 mi) to the east of Route 161 and a quarter of a mile (400 m) north of Route 395 in East Lyme, Connecticut. It is just west of Site 45-25 and a little more than three-quarters of a mile from the current study area. Mary Harper, the recording archaeologist, dated the site to the Late Archaic (6,000 to 3,400 B.P.) using a quartz narrow stem projectile point. Following Phase II archaeological reconnaissance survey, CT-SHPO determined that Site 45-40 was not eligible for the National Register according to the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-37 was reported by Julie L. Hartman-Brodeur of the Public Archaeology Survey Team, Inc., in 1998 (Figure 10). Initially identified during a pedestrian survey, the site was referred to as the Stanton Oil Mill Site. Located at the northwest corner of Oil Mill Road and Gurley Road, near 57 Gurley Road, the site consists of a mill foundation and dam, visible for approximately 150 m (492 ft) along the west side of Oil Mill Road. The mill, namesake of both the road it is accessed through and the brook which powered its water wheel, was utilized beginning in 1782, but the date of abandonment is unknown. Despite the site's importance as an example of Waterford's milling history, Site 45-25 has not yet been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-45, alternatively called the Getchell-Brown House Site, is located on Clam Lane, to the north of the intersection of Fargo Road and Stony Brook and is 425 m (1,400 ft) to the east of the study area (Figure 10). The site was recorded in 1998 as the result of a pedestrian survey conducted by the Public Archaeology Survey Team, Inc., ahead of construction for Route 11. Julie L. Hartman-Brodeur dated the site to the nineteenth century using historic mapping. Hartman-Brodeur described the site as a small stone foundation. Utilizing chain of title research, she attributed the property to the Getchell family and later to Mrs. C. Brown. No artifacts were recovered from the site. Site 152-45 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-67, alternatively called Flat Rock Quarry, is located near Route 85 and the Crystal Mall. In reference to the study area, the site is 0.8 km (0.5 mi) to the west (Figure 10). M. Harper of the Public Archaeology Survey Team, Inc. identified the site as a twentieth century industrial granite quarry following pedestrian survey. According to historical research, this quarry served as an important part of Waterford's economy and provided the stone for such buildings as the Customs House in New London and buildings at Connecticut College. The construction of the Crystal Mall, however, destroyed the site. Therefore, Site 152-67 was never assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and does not retain any research potential.

Site 152-75 is situated at 21 Gurley Road in Waterford. Identified by the Public Archaeology Survey Team, Inc., in 1998 during pedestrian survey, the site consists of a historic structure (Figure 10). Through historical research, the foundation was identified as the Walter-Moore House. Built in 1691 by Samuel Walter, the property was occupied well into the twentieth century. This home is the oldest extant in Waterford. An 1840 brick addition served as the town poorhouse until a hurricane destroyed it in 1938. At this time, Site 152-75 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]); however, M. Harper, the recording archaeologist, reported that the site may retain significant research potential, especial in regard to the poorhouse tenet lifeways.

Site 152-81 is the site of the original location of the Matthew Stewart House. It was recorded in 1998 by the Public Archaeology Survey Team, Inc., during pedestrian survey (Figure 10). The site is located near 465 Boston Post Road in Waterford, approximately 914 m (3,000 ft) from the study area to the south. The home was built in 1745 and later moved several hundred feet to its present location. The home itself was still occupied at the time of recordation. The property has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-108 was identified during the same survey as Site 45-40 by Archaeological and Historic Services, Inc. in July of 1998. It is located just 600 feet to the southeast of Site 45-40. Phase I testing yielded five quartz and one quartzite flakes, and although Phase II testing was planned, no further

investigation was completed due to access issues (Figure 10). Although these flakes may date to the Late Archaic, the site remains undated due to lack of firmly diagnostic artifacts. The proximity of the site to Site 45-40, as well as the good site integrity of the layers from which the artifacts were recovered, suggest that the site retains significant research potential. As such, CT-SHPO determined that the site is National Register-eligible according to the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-124 is a prehistoric site situated 3,000 feet to the southeast of the Project Area, about 500 feet south of Gurley Road (Figure 10). Although undated, the recording archaeologist, M. Harper of the Public Archaeology Survey Team, Inc., categorized the site as a prehistoric camp. Artifacts were limited to the plow zone and consisted of 9 quartz flakes as well as some historic scatter. Therefore, the site was not considered eligible for listing on the National Register of Historic Places according to criteria 36 CFR 60.4 [a-d] due to the clearly disturbed context of the find.

Site 152-125 is a historic site situated just south of Site 152-124, approximately 800 feet south of Gurley road and 1600 feet west of Cross Road (Figure 10). The site was identified during Phase I testing by the Public Archaeology Survey Team, Inc. in 2000 and defined as an approximately 100 ft square area as a result of Phase II testing. The artifacts primarily consisted of late historic ceramic from the plow zone. M Harper, the recording archaeologist, suggested that the artifacts may have originated from Site 152-126. Due to poor site integrity and the low artifact density, Site 152-125 was not considered eligible for listing on the National Register of Historic Places.

Site 152-126 is an historic site about 3,000 feet to the southeast of the Project Area and south of Gurley Road (Figure 10). James Poetzinger of the Public Archaeology Survey Team, Inc., reported the site in 2000 as the result of Phase I cultural resources management testing. Artifacts included glass, brick, ceramic, shell, slag, and metal, and were associated with standing ruins. The site was loosely dated to the nineteenth century based upon an 1854 map depicting structures in the project area. The site has not been assessed according to the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-127 is a prehistoric site located approximately three-quarters of a mile to the southeast of the project area, to the south of Gurley Road (Figure 10). The site was identified during Phase I cultural resources management survey by the Public Archaeology Survey Team, Inc. The recovered artifacts consisted of one biface and two flakes. No date was assigned as these artifacts were not diagnostic. Although further testing was recommended, no further investigation has been completed at this time. As such, the site has not been assessed according to the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Site 152-129 was identified during Phase I cultural resources management testing by Archaeological and Historical Services, Inc. in 2004 (Figure 10). The site is near Route 161 and about three-quarters of a mile to the west of the Project Area, just south of Site 152-108. It was initially dated to the Late Archaic using the seriation of recovered Native American ceramics and a small quartz projectile point stem. The site also contained no diagnostic material which included stone debitage from tool product, charcoal, and calcine (fire treated) bone. Further Phase II testing widened the occupation date from the Late Archaic through the Late Woodland. Site 152-129 was then identified as a revisited camp site. A robust assemblage from intact soils of over 400 artifacts and two features was recovered, indicating the site was a significant part of prehistoric lifeways. Therefore, CT-SHPO determined that Site 152-129 is National Register of Historic Places eligible.

Site 152-134 is a historic site of unknown date situated on the east bank of Oil Mill Brook, about half a mile from the project area (Figure 10). The site was identified during Phase I cultural resources

management testing by Archaeological and Historical Services, Inc. in 2002. A stone dam and mill composed the site, but further testing was recommended (although no documents of such research is extant). The site is a contributing element of the proposed Wolf Pit Hills National Register Archaeological District, which contains sites from the 18th-19th centuries that mark an abandoned settlement. A review of the CT-SHPO website suggests that the nomination of this District has not yet been approved. The inhabitants of the former settlement likely exploited the natural resources of the wooded area until they were depleted.

Summary and Interpretations

The review of previously completed research in the vicinity of the proposed study area and the analysis of archaeological sites recorded nearby, indicates that the larger project region contains both a prehistoric Native American site, as well as a historic period occupation. Archaeological sites recorded adjacent to the study region date sometime in the prehistoric era (ca. 12,000 to 350 B.P.), as well as the eighteenth century historic era. The long use of the area throughout prehistory and the historic era suggests that additional archaeological sites may have been situated within the study area.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methodology used to complete the Phase IA cultural resources assessment survey of the study area in Waterford, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously completed cultural resources surveys and all previously recorded cultural resources in the area encompassing the study area; 3) a review of historic maps, topographic quadrangles, and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the study area in order to determine its archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987)

Research Framework

The current Phase IA cultural resources assessment survey was designed to assess the archaeological sensitivity of the proposed study area, as well as to visually examine the study area and record any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning considered the distribution of previously recorded cultural resources located within the study area, and a visual assessment of the study area. The methods used to complete this investigation were designed to provide coverage of all portions of the study area. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and study area mapping (see below).

Archival Research & Literature Review

Background research for this project included a review of a variety of historic maps depicting the proposed study area; an examination of USGS 7.5' series topographic quadrangles; an examination aerial images dating from 1934 through 2016; and a review of all archaeological sites, as well as National and State Register of Historic Places, data on file with the Connecticut State Historic Preservation Office, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the study area and to provide a natural and cultural context for the proposed study area. This information then was used to develop the archaeological context of the study area, and to assess its sensitivity with respect to producing intact cultural resources.

Background research materials, including historic maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the Connecticut State Historic Preservation Office. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during the course of this project, and they provided valuable data related to the study area, as well as data concerning previously identified archaeological sites, as well as National and State Register of Historic Places properties, within the general vicinity of the study area.

Field Methodology and Data Synthesis

Heritage also performed fieldwork for the Phase IA cultural resources assessment survey of the study area associated with the proposed solar project in Waterford, Connecticut. This included pedestrian survey, photo-documentation, and mapping of the study area. Heritage completed the pedestrian survey on April 19 and 20, 2018. During the completion of the pedestrian survey, representatives from Heritage photo-documented the study area using digital media.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the study area in Waterford, Connecticut and recommendations for treatment of the study area. The goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the study area; 3) a review of readily available historic maps and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the study area in order to determine its archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

As seen in Figures 1 and 2, study area is situated to the east of Oil Mill Road in Waterford, Connecticut. The project parcel is bordered to the west by residential areas along Oil Mill Road, to the north and east by forested areas, and to the south by Parkway North, a service road that runs parallel to Interstate 95. It contains 112.5 acres of land with elevations ranging from 45.7 to 73.1 m (150 to 240 ft) NGVD, and until very recently was covered with secondary forest that contain small areas of wetlands and bedrock outcropping. As discussed below, the current Phase IA cultural resources assessment survey resulted in the stratification of the study area into zones of no/low, moderate, and high archaeological sensitivity areas. During the course of the pedestrian survey portion of this investigation, it was noted that the current landowner has undertaken a substantial amount of timbering on the parcel. This has resulted in the removal of the secondary forest, leaving behind zones of disturbance, most of which were confined to new access roads that were used to haul the timber offsite. Fortunately, no stumping has occurred and most of the study area appears to retain depositional integrity.

Overall Sensitivity of the Proposed Study Area

In addition to the above referenced research into the historic maps, aerial images, and landowner information, Heritage completed pedestrian survey of all parts of the study area. The field data collected during the pedestrian survey was used in conjunction with the analysis of topographic and soils mapping, to stratify the study area into zones of no/low, moderate/high archaeological sensitivity. As previously described, historic sites are generally easy to find on the landscape because the features associated with them tend to be relatively permanent constructions. Prehistoric sites, on the other hand, are less often identified during pedestrian survey, and predicting their locations relies more on environmental factors that would have informed Native American site choices.

With respect to the potential for identifying prehistoric archaeological sites, the study area divided into areas of no/low and moderate/high archaeological potential by analyzing landform types, slope, aspect, soils, and distance to water. In general, areas located less than 300 m (1,000 ft) from a freshwater source

and that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing prehistoric archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source are considered moderate probability areas. This is in keeping with broadly based interpretations of prehistoric settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of prehistoric site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences. Smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are deemed to retain a no/low archaeological sensitivity.

The combined review of historic maps, aerial images, land deeds, and pedestrian survey indicates that 87.6 acres of the study possess a no/low archaeological sensitivity (Figure 12). Photos 1 through 13 represent a sample of these areas, and they show that the no/low sensitive areas are characterized by the presence of major disturbances, wetlands, streams, rock outcroppings, and/or steep slopes. They are found throughout the central, southwestern and southeastern portions of the study and are shown yellow in Figure 12. Figure 12 also shows those portions of the study area (24.9 acres) has been classified as moderate/high sensitivity areas for producing archaeological deposits. Although the forest has been removed from these areas, the stumps have not been pulled, leaving the depositional integrity relatively undisturbed. Thee moderate/high sensitivity areas possess relatively low slopes, well drained soils, and are positioned closer to Oil Mill and Stony Brook than the rest of the study area; they are situated in the northernmost and northeastern portions of the study area.

Management Recommendations

Since the above-referenced no/low sensitivity areas contain slopes, wet areas, rock outcroppings, and/or obvious signs of major disturbance, no archaeological deposits are expected in these areas; thus, no additional examination of them is recommended prior to construction of the proposed solar center. In addition, while it is known that the moderate/high sensitivity areas have undergone some level of previous disturbance by the recent timbering, it is possible that undisturbed subsoil may remain in these areas and may contain intact archaeological deposits. Thus, it is recommended that Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas that will be impacted by construction be conducted. Finally, it is recommended that any proposed Scope of Work associated with Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas referenced above be discussed with the Connecticut State Historic Preservation Office prior to implementation.

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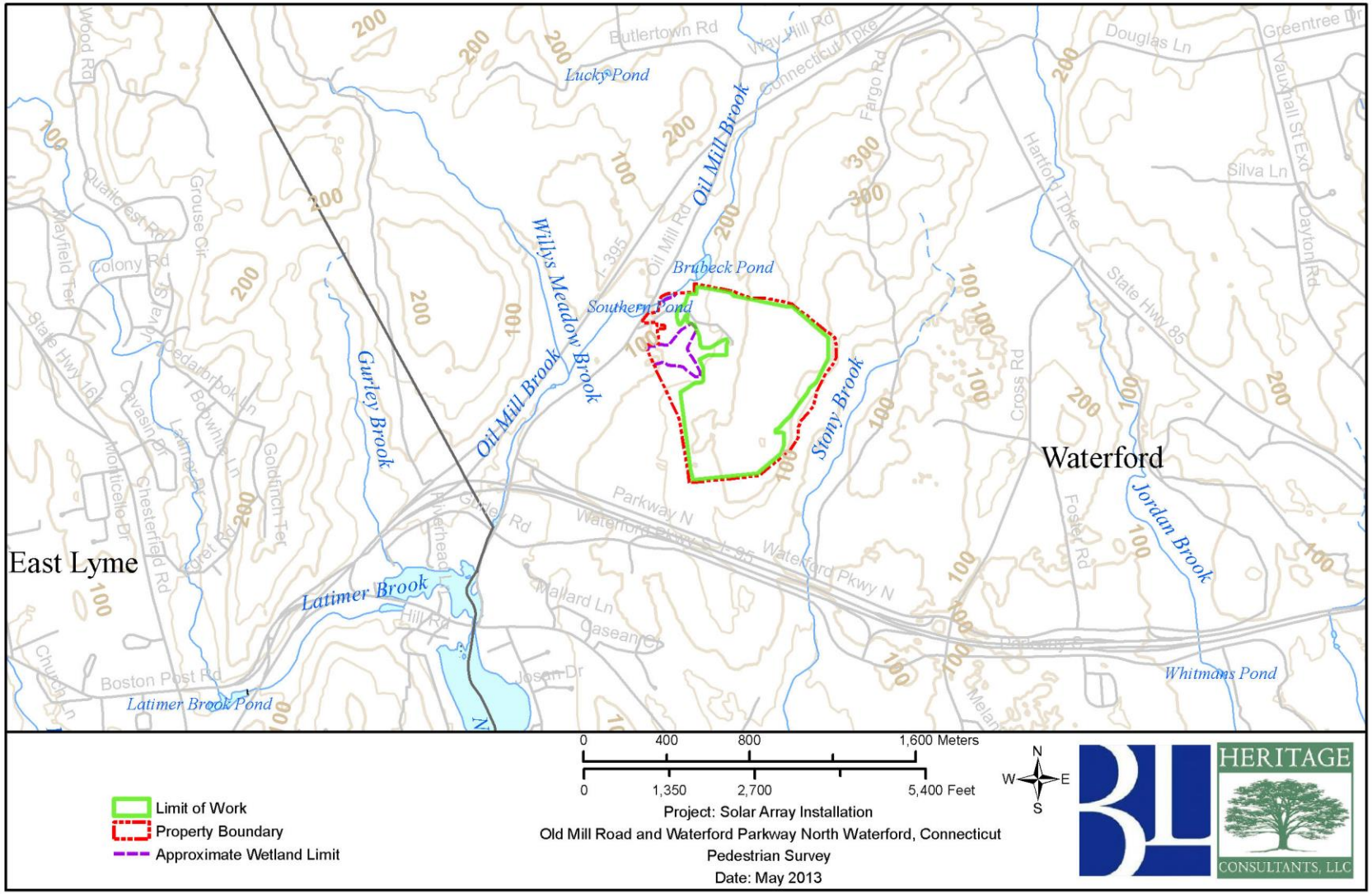

Figure 1. Digital Map showing the location of the proposed solar project in Waterford, Connecticut.

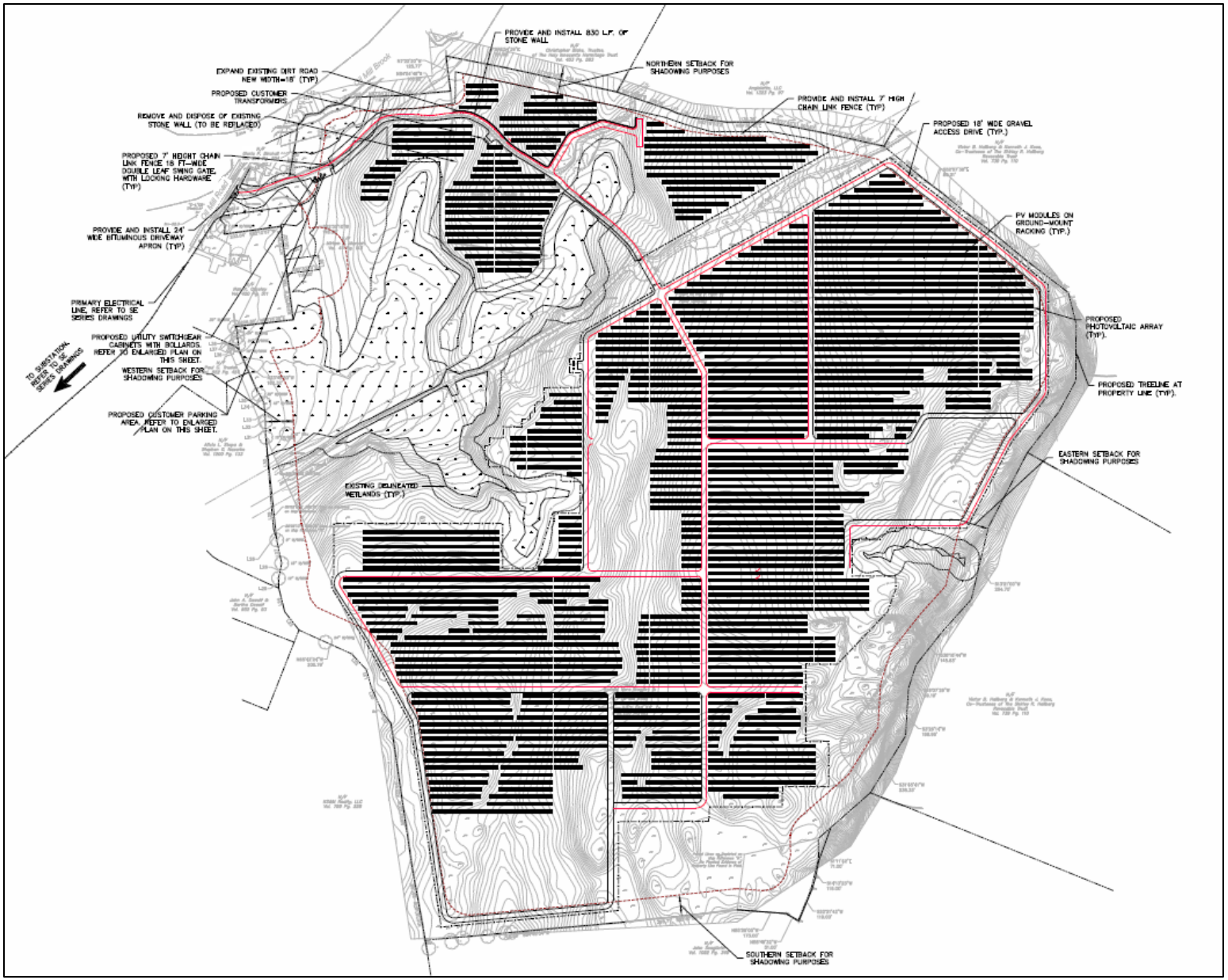

Figure 2. Plan view of the proposed project area in Waterford, Connecticut showing the locations of the proposed solar arrays, access roads and storm water management areas.

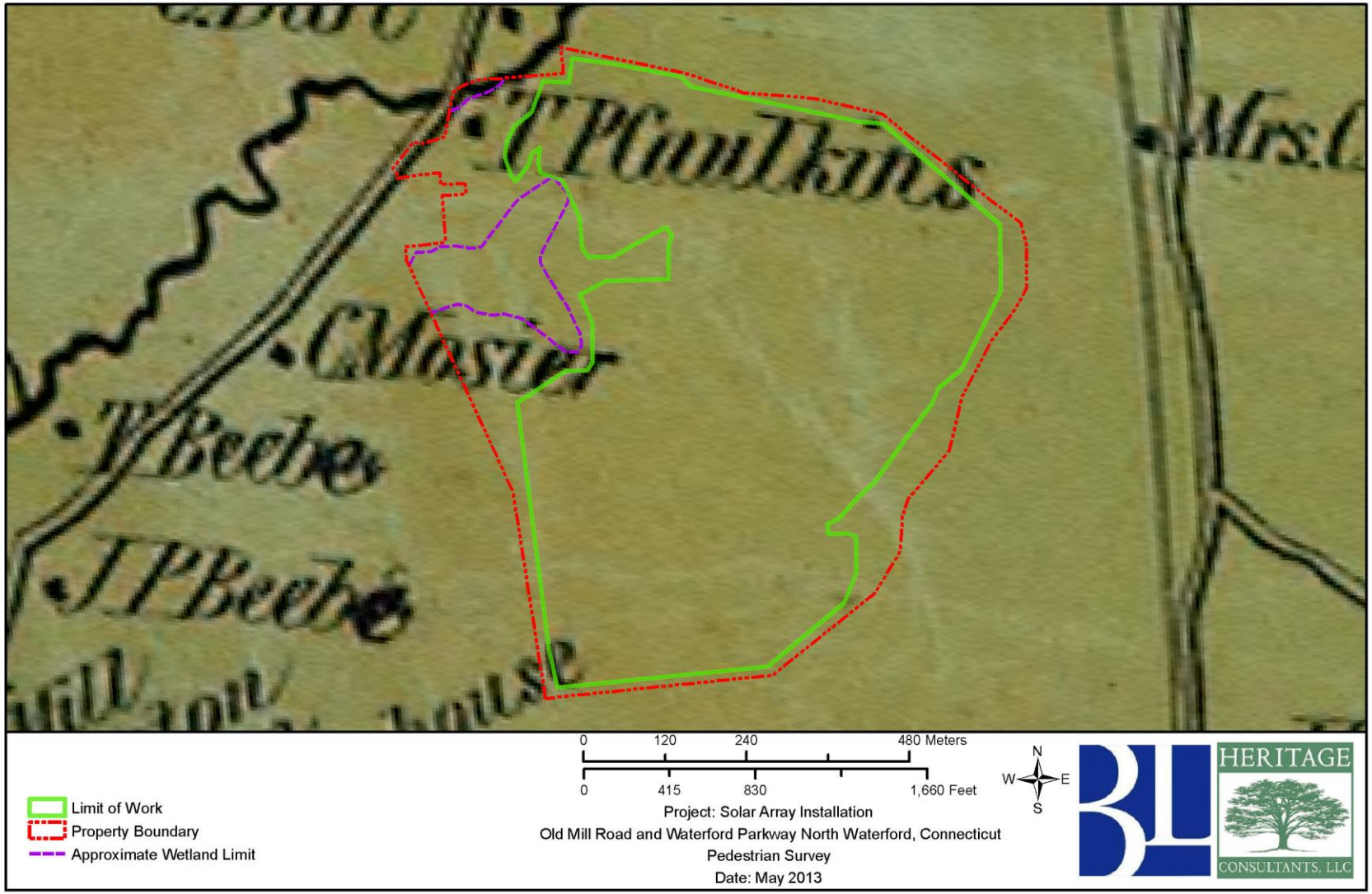

Figure 3. Excerpt from an 1854 historic map showing the location of the proposed solar project in Waterford, Connecticut.

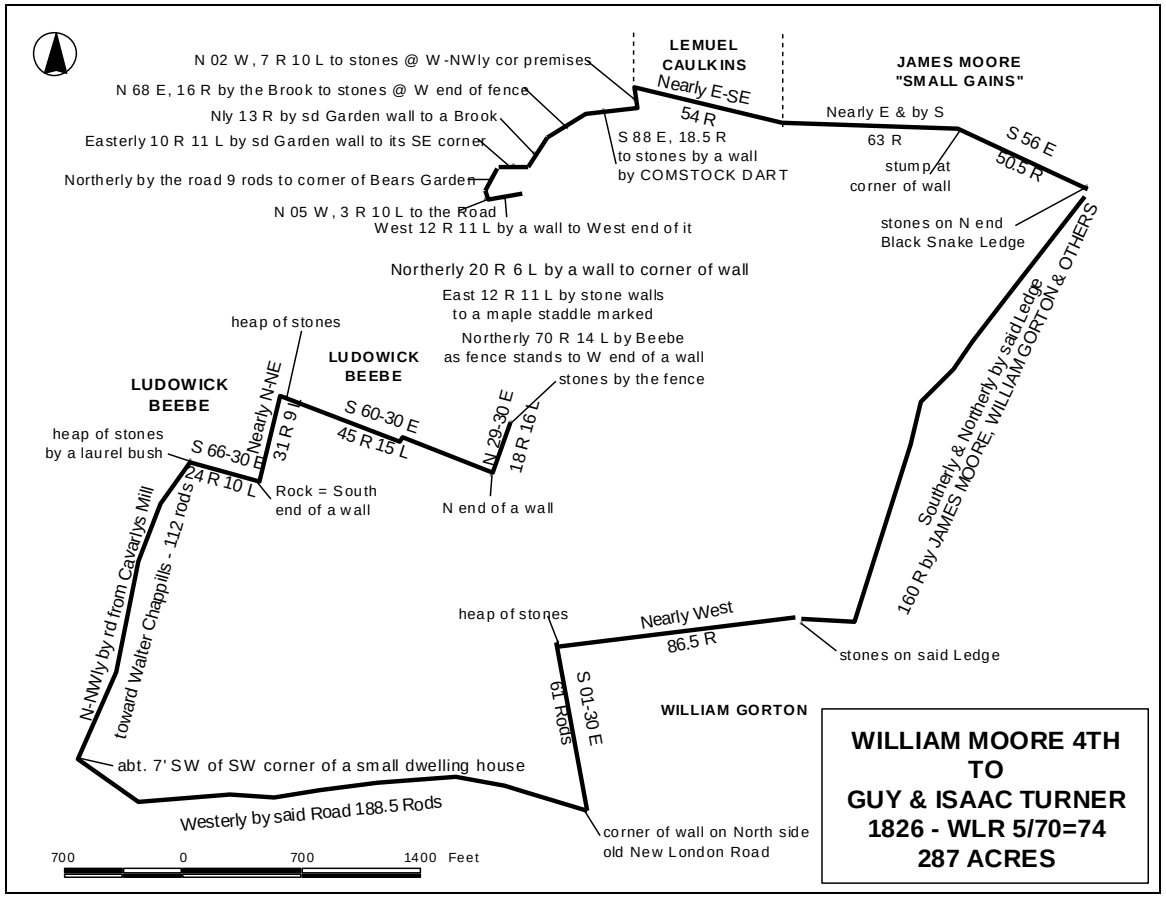

Figure 4. Digitized map from an 1826 deed showing the boundaries of the William Moore property as conveyed to Guy and Isaac Turner which contains the present project area in Waterford, Connecticut.

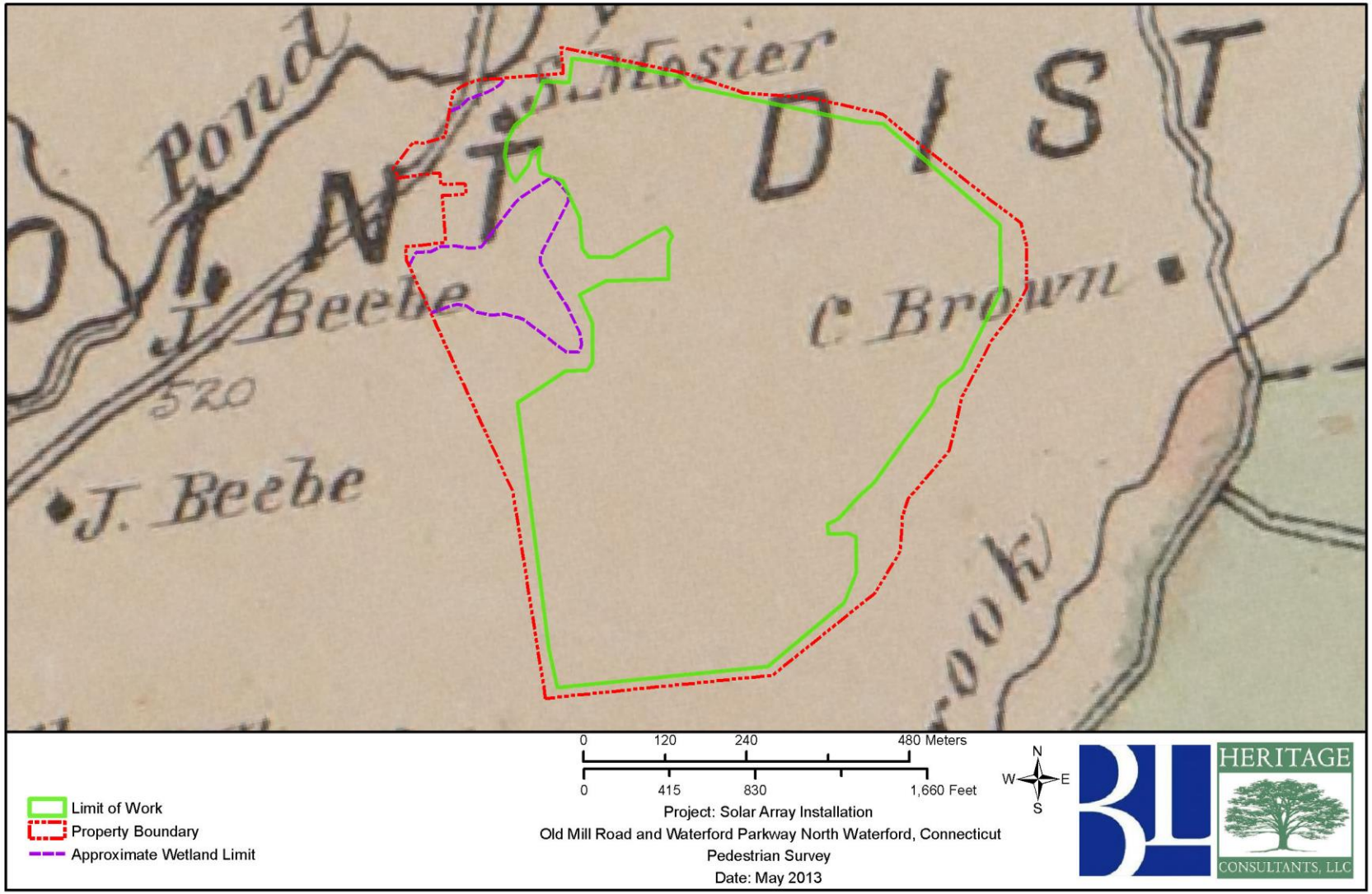

Figure 5. Excerpt from an 1868 historic map showing the location of the proposed solar array in Waterford, Connecticut.

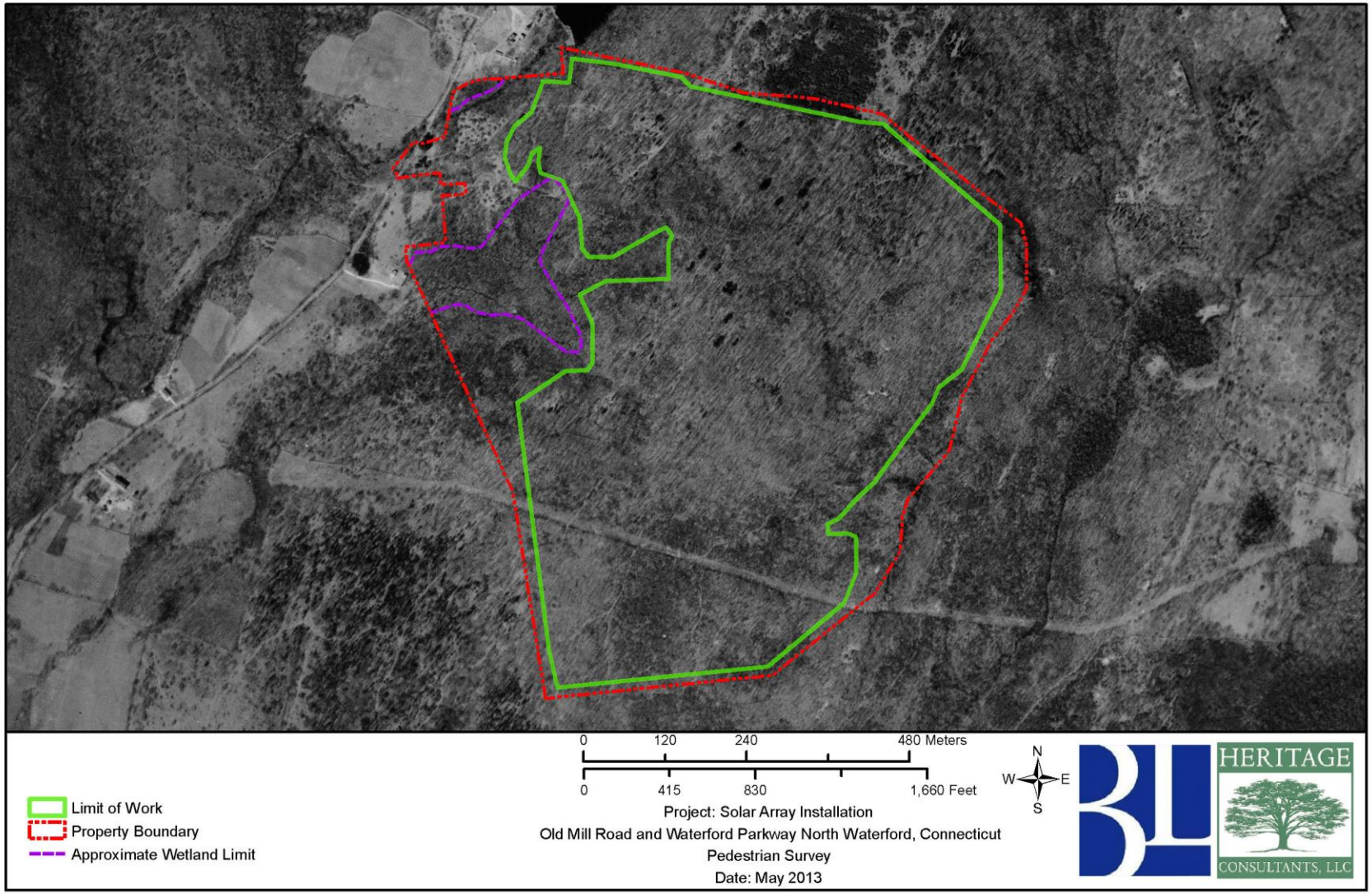

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the proposed solar array in Waterford, Connecticut.

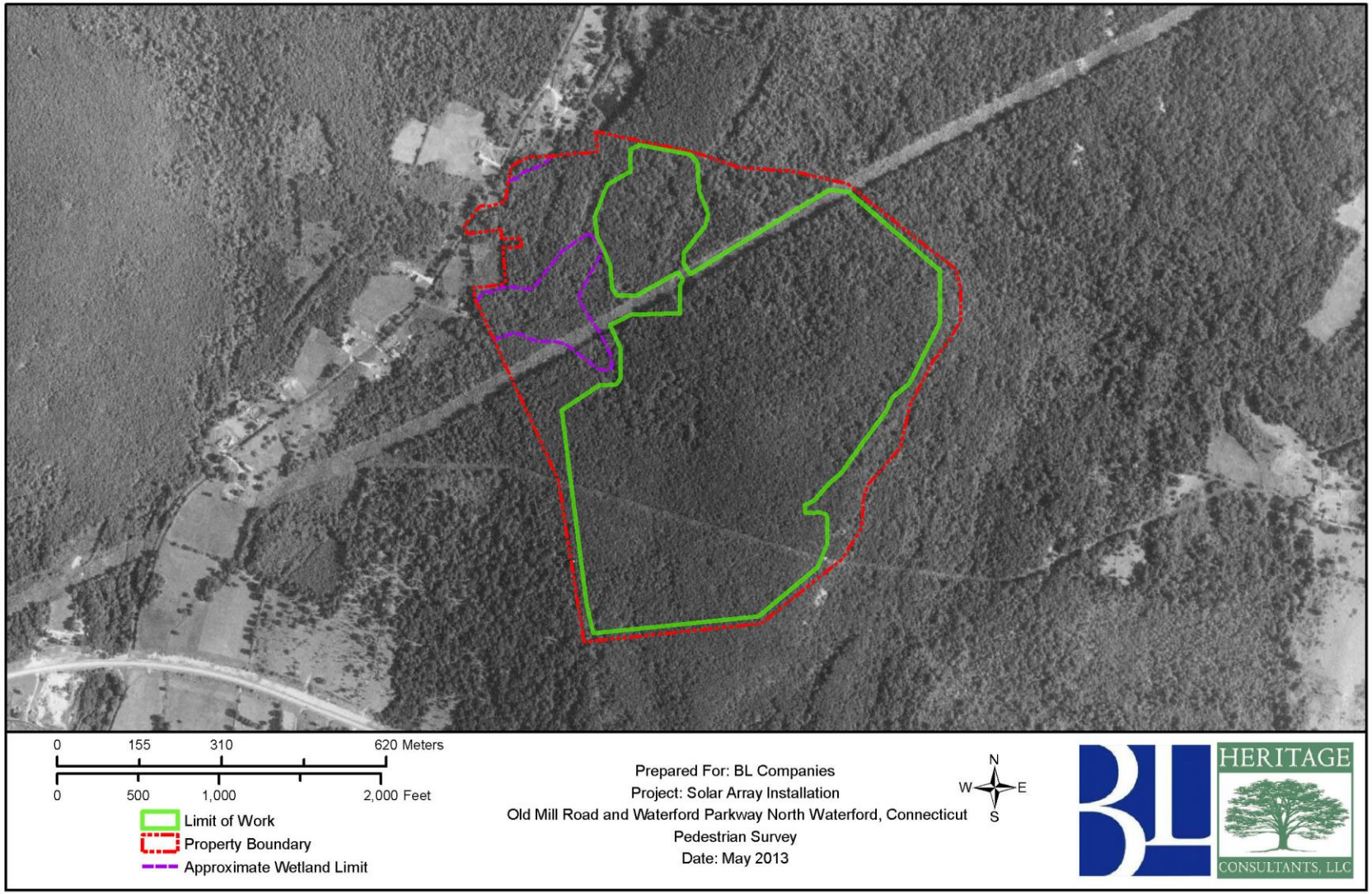

Figure 7. Excerpt from a 1951 aerial photograph showing the location of the proposed solar array in Waterford, Connecticut.

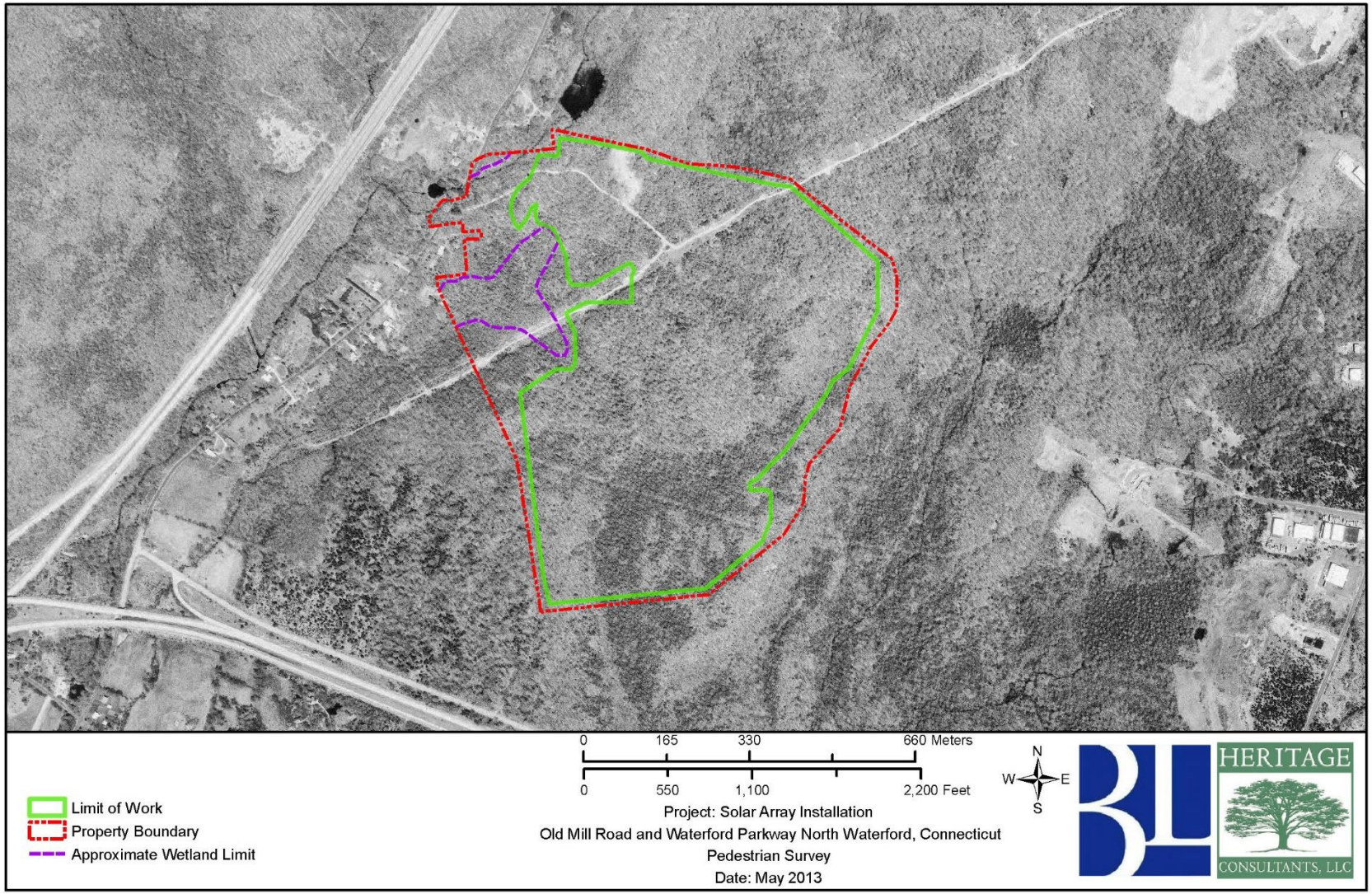

Figure 8. Excerpt from a 1970 aerial photograph showing the location of the proposed solar array in Waterford, Connecticut.

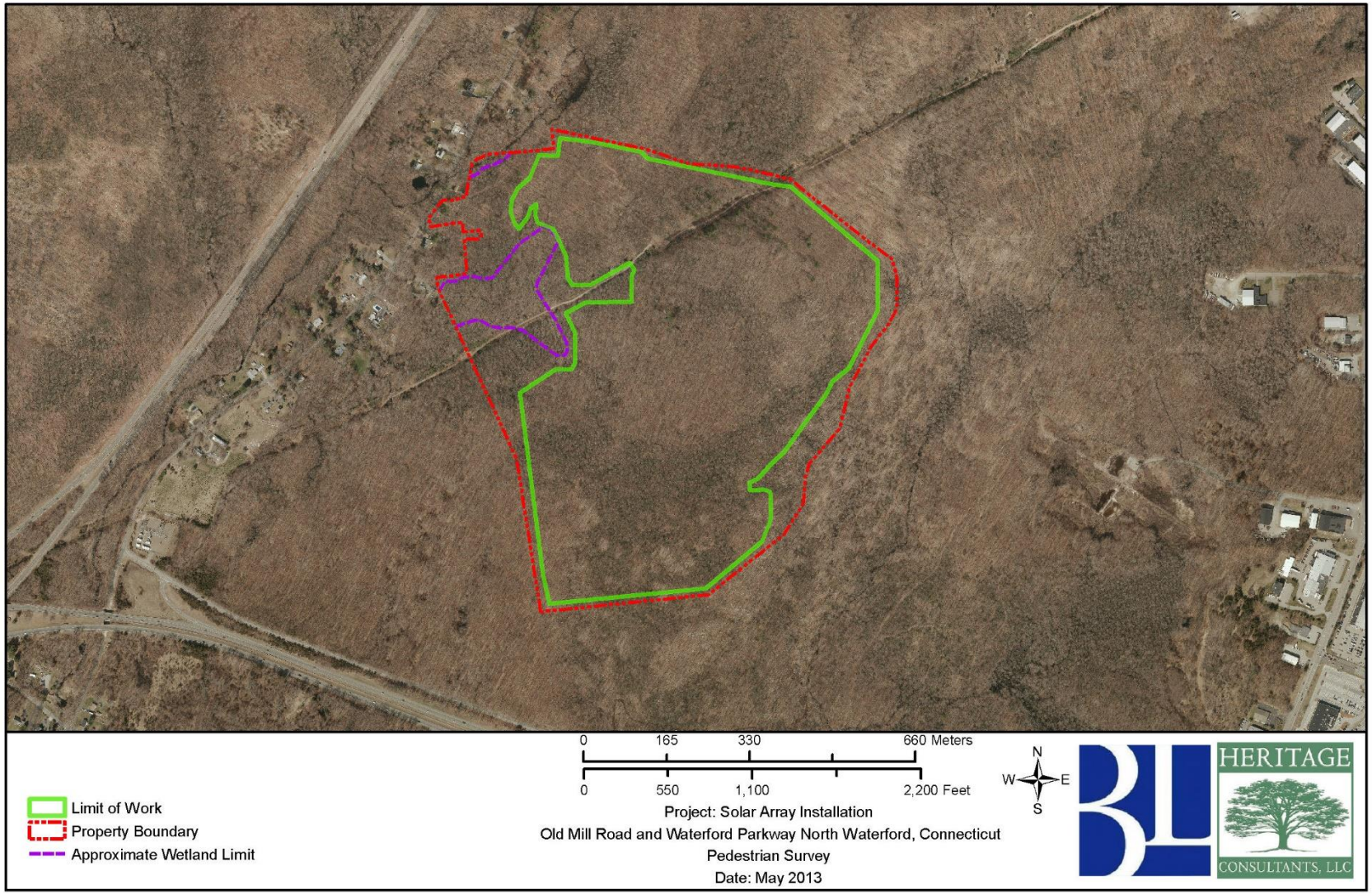

Figure 9. Excerpt from a 2016 aerial photograph showing the areas of archaeological sensitivity at the location of the proposed solar array in Waterford, Connecticut.

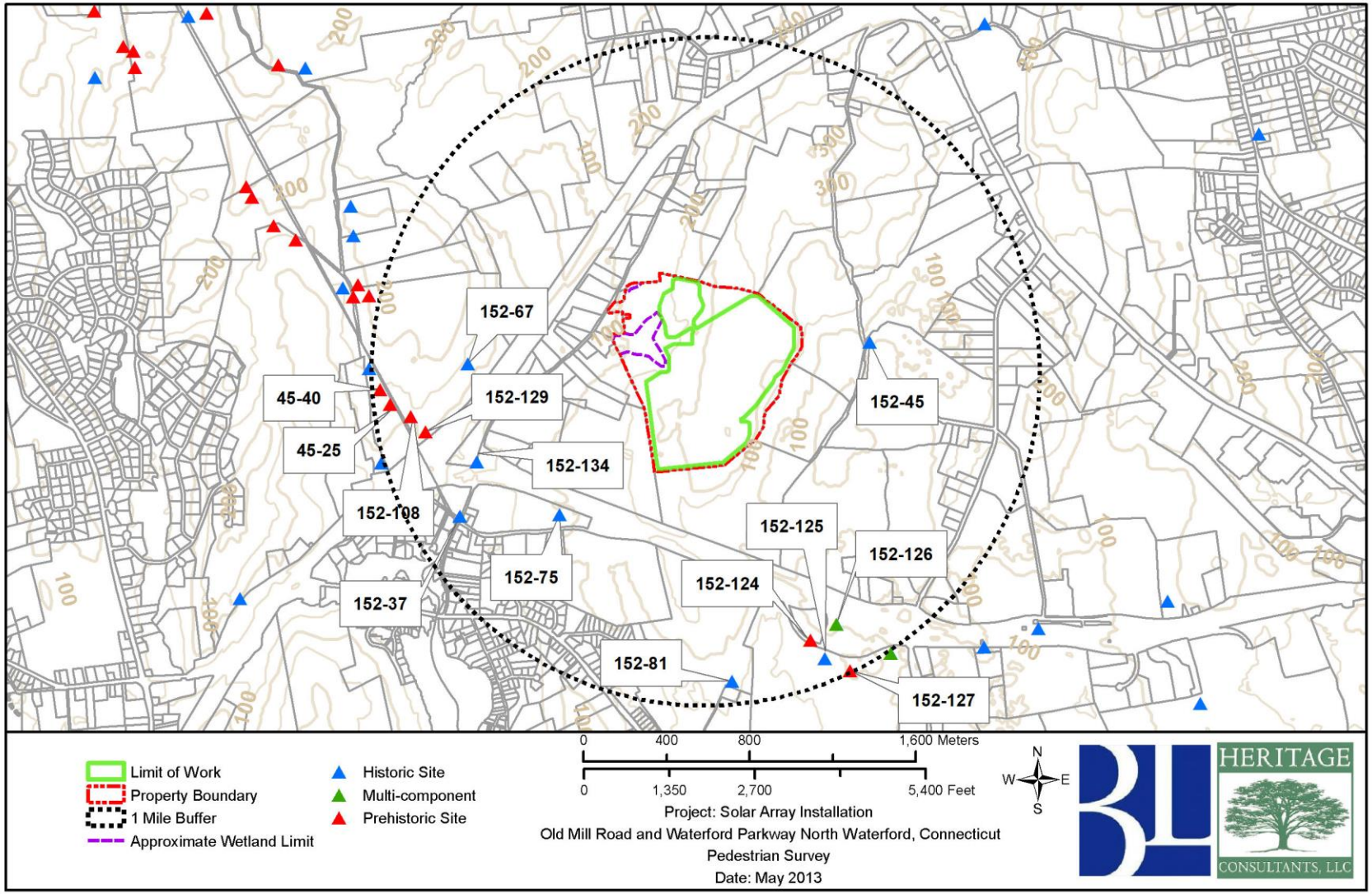

Figure 10. Digital map showing the location of previously identified archaeological sites in the vicinity of the proposed solar array in Waterford, Connecticut.

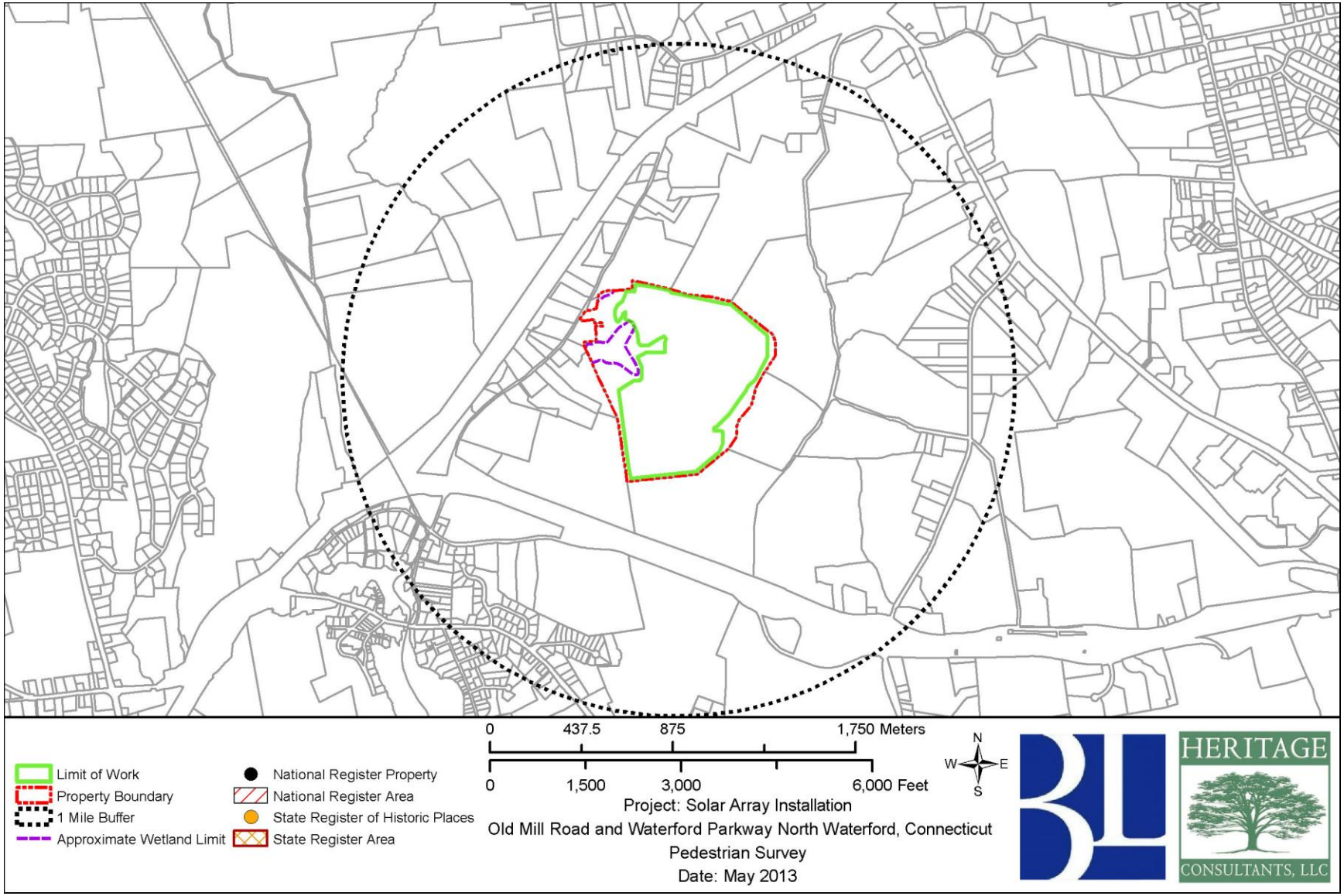

Figure 11. Digital map depicting the locations of previously identified historic standing structures, as well as National and State Register of Historic Places properties in the vicinity of the proposed solar center in Waterford, Connecticut.

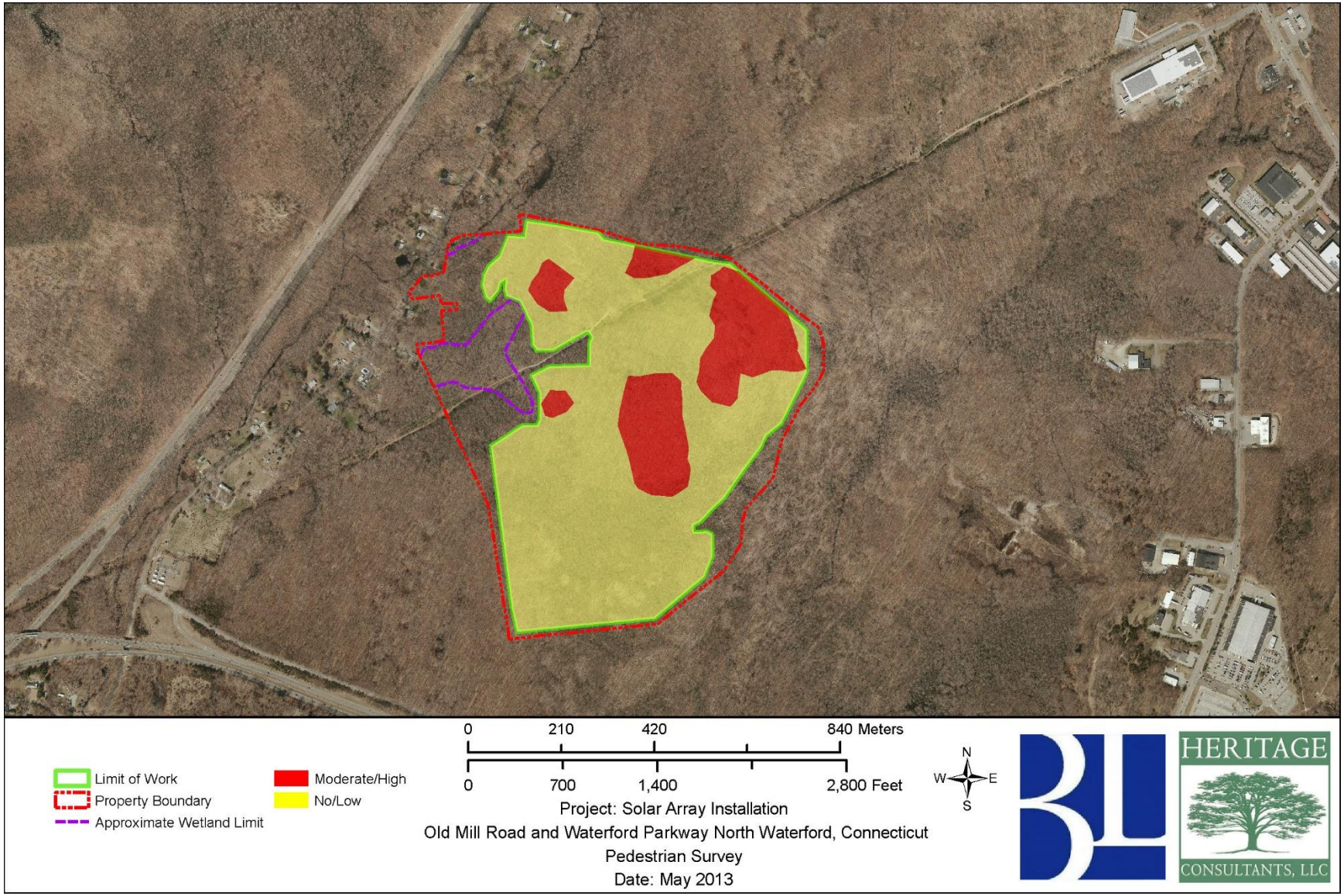

Figure 12. Excerpt from a 2016 aerial images depicting the locations of no/low and moderate/high sensitivity areas throughout the study area in Waterford, Connecticut.

Photo 1. Overview photo of the electrical transmission corridor running through the study areas facing southwest.

Photo 2. Overview photo of the northeastern portion of the study area facing west.

Photo 3. Overview photo of the east central portion of the study area facing southwest.

Photo 4. Overview photo of the southeastern portion of the study area facing northwest.

Photo 5. Overview photo of the southwestern portion of the study area facing northwest.

Photo 6. Overview photo of the west-central portion of the study area facing southwest.

Photo 7. Overview photo of the central portion of the study area facing west.

Photo 8. Overview photo of the central portion of the study area facing southwest.

Photo 9. Overview photo of the southeastern portion of the study area facing south (note large rock outcrops in this area).

Photo 10. Overview photo of the southeastern portion of the study area facing southwest (note large rock outcrops and wet soils in this area).

Photo 11. Overview photo of the northern portion of the study area facing north.

Photo 12. Overview photo of the northern portion of the study area facing south.

Photo 13. Overview photo of an access road connecting the northern portion of the study area to the southern portion facing south.